

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
6 April 2006 (06.04.2006)

PCT

(10) International Publication Number  
**WO 2006/035948 A1**

(51) International Patent Classification:  
*G11B 7/0045* (2006.01) *G11B 19/20* (2006.01)

(74) Agent: ITOH, Tadahiko; 32nd floor, Yesibu Garden Place Tower, 20-3, Ebisu 4-chome, Shibuya-ku, Tokyo 150-6032 (JP).

(21) International Application Number:  
PCT/JP2005/018209

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:  
26 September 2005 (26.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004-287825 30 September 2004 (30.09.2004) JP

(71) Applicant (for all designated States except US): RICOH COMPANY, LTD. [JP/JP]; 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo, 1438555 (JP).

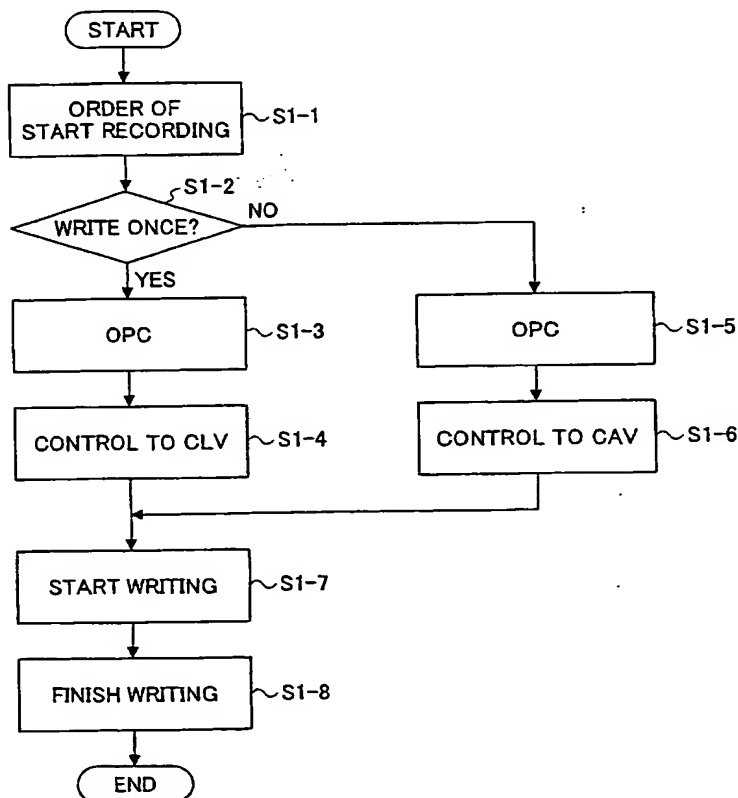
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (for US only): NAGAMURA, Aritsune [JP/JP]; 34-20, Chigusadai, Aoba-ku, Yokohama-shi, Kanagawa, 2270051 (JP).

[Continued on next page]

(54) Title: OPTICAL DISK RECORDING METHOD AND OPTICAL DISK RECORDING AND READING APPARATUS



(57) Abstract: An optical disk recording method on the write-once or re-writable optical medium comprising the steps of: identifying the media as write-once or re-writable; performing optimal power calibration procedure in the power calibration area of the disk; and switching to the constant linear velocity control during writing data to the write-once disk; or switching to constant angular velocity control in case of writing to the re-writable medium. The power of the light beam during the writing procedure is set according to the calculations received in the power calibration procedure. In another embodiment, after sensing the write-once medium, if the recording data takes place in the location which is not the most inner radial location of the disk, the method of recording data checks whether the radial distance between the location where recording is going to place and the most inner data recording location on the disk is less than a half of the distance between the most distant and most inner radial locations of the disk, and then on a base of the result the CAV or CLV of control is applied to control the spin of the disk during recording data on the write-once medium.



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*